

REMARKS

Claims 1-39 are currently pending in the subject application and are presently under consideration. Claims 1, 4, 17, 19, 31, 33, 37 and 39 have been amended as shown on pp. 2-8 of the Reply. Claims 3, 18, 32 and 38 have been canceled.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-39 Under 35 U.S.C. §102(e)

Claims 1-39 stand rejected under 35 U.S.C. §102(e) as being anticipated by Kapur (US Patent Pub. No. 2005/0102259). Kapur does not teach each and every element of the subject invention as recited in the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes ***each and every limitation*** set forth in the patent claim. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ***The identical invention must be shown in as complete detail as is contained in the ... claim.*** *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (emphasis added).

The subject invention is directed to assisting a user to discover their intent with respect to objects that are desirably searched over. This is accomplished *via* associating each object within a data store that is searched over with queries that were previously employed to locate such object(s). In particular, independent claim 1 (and similarly independent claims 17, 31, 37 and 39) recites similar limitations, namely, a system and method that facilitates determining an intent of a user, comprising, *a search component that identifies a result set for a user search query; a data store that maintains objects, the data store correlates the objects with queries that were previously employed to retrieve the objects; a user intent discovery component that determines a set of potential search areas ...; and a query relation calculator that determines a level of relatedness between the user search query and the previous queries, ...; wherein a level of relation between the previous queries and the user search query is obtained at least in part by determining distance metrics between the previous queries and the user search query.* Kapur does not teach or suggest the aforementioned novel aspects of applicants' claimed invention.

Kapur teaches a system for processing search requests. Queries are parsed into units, which may comprise one or more words or tokens of the query. Further analysis is performed on a unit representation of the queries to detect patterns, such as similar combinations of units being used in different queries. Units that occur in queries in conjunction with a similar set of secondary units are grouped into clusters, and a weight may be assigned to the connection between two cluster members based on the degree of similarity of the secondary units associated with each. Clustering is repeated for different subsets of queries, where the queries are sorted into subsets along one or more dimensions. The dimensions include time, personal characteristics or demographics of the user, a geographic dimension, or a vertical dimension representing a user's activity or context preceding the query. This generates subset-specific clusters for each subset of the queries. (See pg. 1, paragraphs [0007]-[0008]).

In contrast, applicants' claimed invention discloses a system wherein, given a particular query, the search engine retrieves a plurality of objects (an initial return set) that are existent within the data store, wherein the objects are associated with queries utilized previously to locate such objects. Within the initial return set is at least one object that is desirably reviewed by a user who entered the query into the search engine (*e.g.*, the user intended to locate such object but did not generate a particular enough query). The search engine is associated with a relation calculator that partitions the initial return set into a plurality of return sets based upon return sets of the queries that are associated with the objects in the data store. The relation calculator essentially reviews each query (the return set associated with each query) that is associated with objects within the initial return set, and determines a level of relation between the initial query and queries previously employed to locate objects within the initial return set. The relation calculator then can determine a plurality of queries that a user may find useful in locating one or more objects. Queries that are both highly related to the initial return set yet produce disparate objects can be returned to the user *via* a display.

In one particular example, Q can be a set of queries that were previously employed by the search engine in connection with searching for objects in the data store, and q can be a query that is entered by a user into the search engine. D can be a set of objects that are located within the data store, and d can be one particular object that the user intends to find *via* the query q . R can be defined as a binary relation on $Q \times D$ where qRd if and only if d is in the return set for the query q . Thus, given the query q , the relation calculator can locate all queries q' such that

$(\exists d \in D)(qRd \wedge q'Rd)$. More particularly, the relation calculator determines a return set $(R^{-1} \circ R)[q]$ based in part upon distance metrics between the user search query and the previously employed queries. Specifically, the distance metrics are determined by utilizing the algorithm $\|q, q'\| = 1 - \frac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|}$, where $\|q, q'\|$ is a distance metric between the user search query q and one or more previous queries q' . (See pg. 8, line 22-pg. 10, line 8).

Kapur merely discloses clustering search results based on trend information. Ambiguous queries that result in various search results are grouped as clusters and displayed according to the various trend data, such as the day of the week, gender of the user, *etc.* (See pg. 6, paragraph [0056]). Whereas, applicants' claimed invention does not utilize clustering, but associates each object within a data store that is searched over with queries that were previously employed to locate such object(s). Thus, each time an object is accessed *via* a query, such query is associated with the object. Further, distance metrics between the user search query and previous queries are then employed to determine which queries to display to the user. These distance metrics are determined based on the return sets of the user search query and the previous queries. This scheme effectively partitions a return set according to a user search query into a plurality of related return sets that have been located *via* previous queries. Thus, Kapur is silent with regard to a system that facilitates determining an intent of a user, wherein...; ***the data store correlates the objects with queries that were previously employed to retrieve the objects; ...; and a query relation calculator determines a level of relatedness between the user search query and the previous queries, ...; wherein a level of relation between the previous queries and the user search query is obtained at least in part by determining distance metrics between the previous queries and the user search query.*** .

Accordingly, Kapur fails to teach or suggest all limitations of applicants' invention as recited in independent claims 1, 17, 31, 37 and 39 (and claims 2-16, 18-30, 32-36 and 38 that respectively depend there from), and thus fails to anticipate the claimed invention. Consequently, this rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP584US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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